

Santa Barbara Water

June 2009



City of Santa Barbara Annual Water Quality Report

Planning for a Dependable Future Water Supply

Santa Barbara's Water Supply History from the 1800s

Santa Barbara has a long history of balancing water supply with the demand for water. In the 1800s, Santa Barbara's water came from local creeks and wells. Completion of Mission Tunnel in 1911 provided the City with a connection to the Santa Ynez River. The Gibraltar Dam was completed several years later, providing the City with storage capacity on the river. In the 1950s, Lake Cachuma and the Tecolote Tunnel were constructed, providing

an additional supply of Santa Ynez River water for the City and the South Coast. Periodic droughts have taxed water supplies. The drought of 1989 – 1992 caused a severe shortage and led the City to construct the desalination plant and participate in the State Water Project. The drought also gave birth to our award winning Water Conservation Program which has reduced demand to 10% below pre-drought levels, despite twenty years of growth.

Managing Our Water Supply in Santa Barbara

Droughts will be part of our future in Santa Barbara, and possibly more so as a result of climate change. Therefore we manage our supplies to ensure an adequate supply for a five-year drought. For planning purposes, we evaluate each of our water sources based on how much water they would have supplied in the drought of the 1950s. This is the worst extended dry period on record, so we use it as our "critical drought period" for drought planning purposes.



Lake Cachuma is the City of Santa Barbara's primary source of water.

Our last comprehensive evaluation of supplies and drought planning was done in the City's Long Term Water Supply Program (LTWSP) completed in 1994. The City is in the process of updating the LTWSP, in conjunction with an update of the City's General Plan.

The graph on the following page illustrates our normal year supplies and our current plan to meet demand during a severe drought. Both normal and drought years include a safety margin in case of unforeseen events. The drought numbers represent an annual average for each of the supplies over a five year drought period. The plan includes a 10% emergency demand reduction by our customers; this would be met with extra conservation.

(continued inside)



Drinking Water Treatment Regulations

The City gets most of its drinking water from Lake Cachuma and Gibraltar Reservoir. Occasionally well water is also supplied to City water customers. As water travels over land or through the ground, it dissolves naturally occurring minerals and, in some cases radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in the water source include:

- Microbial contaminants such as bacteria and viruses that may come from wildlife or human activity.
- Inorganic contaminants such as salts and metals that can be naturally occurring or result from human activities.
- Radioactive contaminants, which can be naturally occurring.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm-water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals that are by-products of industrial processes, petroleum production and use, or agricultural applications and septic systems.

To ensure safe drinking water, federal and state regulations limit the amount of certain contaminants in public water systems. Regulations also establish limits for contaminants in bottled water to provide protection for public health.

In 2008, as in previous years, City of Santa Barbara water met all primary state and federal standards for drinking water. All of the drinking water that comes from Lake Cachuma and Gibraltar Reservoir is treated at the Cater Water Treatment Plant before being distributed to customers. If you are in any other community and have questions about the water quality, call their water department and ask for a copy of their Consumer Confidence Report.

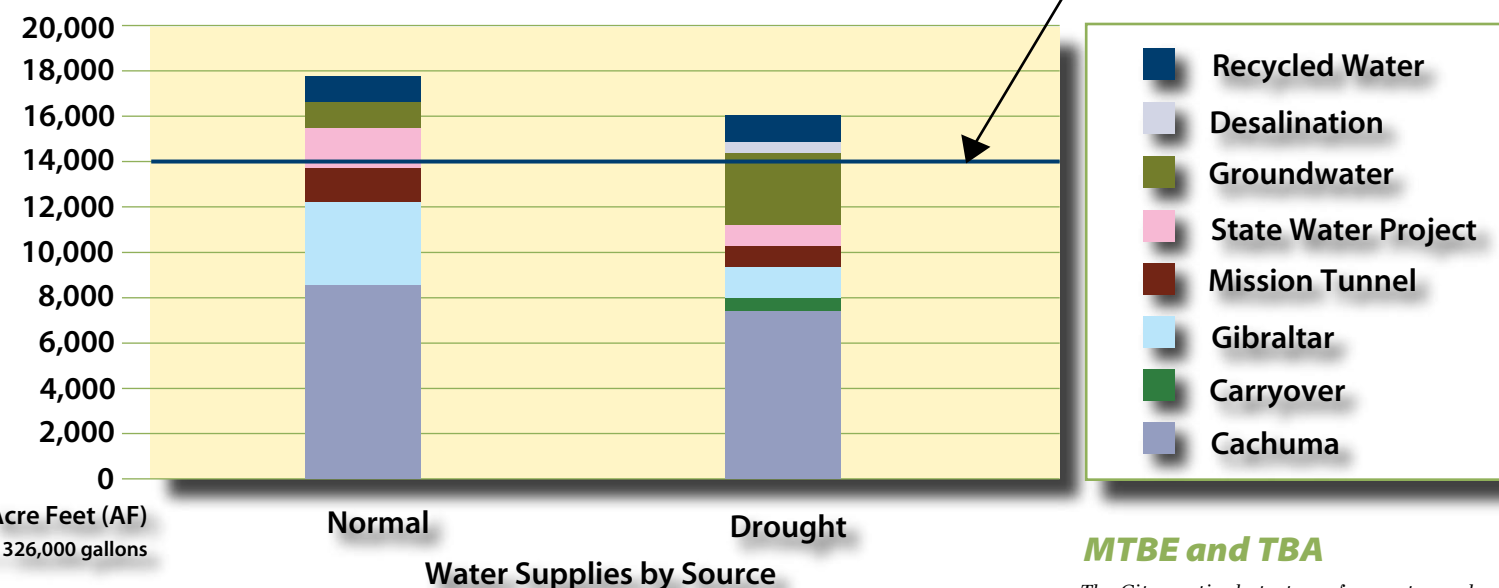
Special Info Available

*Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those who: are undergoing chemotherapy, have undergone organ transplants, have HIV/AIDS or other immune system disorders, or are very old or young can be particularly at risk from infections. These people should seek advice from their health care providers about drinking water. USEPA/ Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline 1-800-426-4791 or www.epa.gov/safewater/.*

Safe Drinking Water Hotline and Web Site

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at 1-800-426-4791 or visiting their website at www.epa.gov/safewater/.

Planned Water Supplies By Source in Normal and Drought Years



(continued from front cover)

Over the coming months, we will continue to assess each of our supplies to estimate the reliability and project the amount of water available, both in normal and drought circumstances.

We will also be updating our estimates for future demand. For more information on the LTWSP update, please visit our website at www.SantaBarbaraCA.gov/water.

MTBE and TBA

The City routinely tests surface water and groundwater for methyl tert-butyl ether (MTBE), a gasoline additive. In 2008, MTBE was found in Hope Avenue Well, with results ranging from "not detected" to 9.7 micrograms per liter ($\mu\text{g/L}$). Tertiary-butyl alcohol (TBA) is a product of MTBE degradation and one of the most common organic contaminants at gasoline spill sites. TBA was detected at amounts up to 3.3 $\mu\text{g/L}$ in active groundwater supplies. TBA does not have a Maximum Contaminant Level (MCL) for drinking water.

Your Water Softener Setting

The City's surface water at Cater Water Treatment Plant has a hardness range of **19 to 27 grains per gallon**. The City's groundwater supplies have a hardness range of **15 to 39**. One grain per gallon equals 17 milligrams per liter.

Radon

Radon is a radioactive gas that you can't see, taste or smell that is found throughout the United States. It occurs naturally in certain rock formations. As a result, radon can be found in Santa Barbara's groundwater. Groundwater is a small part (1.5%) of the City's total water supply. Radon has not been detected in the City's surface water. Radon can enter homes through cracks or holes in foundations and floors. Radon can also get indoors when released from tap water. Test your home if you are concerned about radon. Testing is inexpensive and easy. For additional information call your State radon program at 1-800-745-7236 or call EPA's Radon Hotline at 1-(800) SOS-RADON.



Limited Potential for Contamination

The City has evaluated the vulnerability of our water supplies to contamination. For potential contaminants at Lake Cachuma, the use of two stroke engines contributes some MTBE to the water. Gibraltar Reservoir's remote location, and the restriction of access to the reservoir limit opportunities for contamination. City groundwater supplies are generally located deep beneath the surface. Nonetheless, there is the potential for contaminants from surface sources, such as gasoline stations and dry cleaners, to reach City water supplies. All water sources are carefully monitored to ensure that pollutants are not present at levels exceeding state and federal standards. For more information, call 568-1008.

WHERE YOUR DRINKING WATER COMES FROM



2008 City Drinking Water Quality Report

Definitions

Public Health Goal (PHG)

The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Maximum Contaminant Level Goal (MCLG)

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Contaminant Level (MCLs)

The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Residual Disinfectant Level Goal (MRDLG)

The level of a disinfectant (chlorine) added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL)

The level of a disinfectant (chlorine) added for water treatment that may not be exceeded at the consumer's tap.

Regulatory Action Level (AL)

The concentration of a contaminant which, if exceeded, triggers a treatment or other requirement which a water system must follow.

Treatment Technique (TT)

A required process intended to reduce the level of contaminants in drinking water.

Primary Drinking Water Standards (PDWS)

MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.

Secondary Drinking Water Standards (SDWS)

MCLs for contaminants that affect taste, odor, or appearance of drinking water. Contaminants with SDWS do not affect the health at MCL levels.

Unregulated Contaminant Monitoring Regulations (UCMR)

Data generated by the new UCMR will be used to evaluate and prioritize contaminants on the Drinking Water Contaminant Candidate List, a list of contaminants EPA is considering for possible new drinking water standards. Also known as "State Regulated Contaminants with No MCLs".

Legend

- µg/L:** Micrograms per liter (parts per billion)
- mg/L :** Milligrams per liter (parts per million)
- ND:** Not detected at testing limit
- NTU:** Nephelometric Turbidity Units
- pCi/L :** PicoCuries per liter (a measure of radiation)
- µmhos/cm:** Micromhos per centimeter
- DBP:** Disinfection By-products
- NA:** Not applicable or no standard or no data

SUBSTANCE (Parameter)	Public Health Goal	Maximum Contaminant Level	Range Detected	Reporting Value	Range Detected	Reporting Value	Major Sources in Drinking Water
PRIMARY STANDARDS			Surface Water		Groundwater		
Regulated Contaminantswith Primary MCLs or MRDLs							
<i>Microbiological Contaminants</i>							
Total Coliform Bacteria	0	5% of monthly samples	0% – 0.54%	0.54%	0% – 0.54%	0.54%	Naturally present in the environment
Turbidity (NTU)	NA	TT = 1 NTU	0.02 - 0.15	0.15	See table below	See table below	
		TT = 95% of samples ≤0.3 NTU	NA	100%			Natural river sediment/soil run-off
<i>Inorganic Contaminants</i>							
Fluoride (mg/L)	1	2.0	0.29 – 0.47	0.39	ND – 0.64	0.30	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer factories
Arsenic (µg/L)	4	10	ND – 2.2	1.2	ND – 13	2.1	Erosion of natural deposits
Aluminum (µg/L)	600	1000	15 – 490	105	ND – 820	116	Erosion of natural deposits
Nitrate (mg/L)	45 as NO ₃	45	ND – 2.0	1.2	ND – 25.3	8.6	Erosion of natural deposits; runoff from fertilizer use
Barium (mg/L)	2	1	No Range	0.061	No Range	0.032	Erosion of natural deposits
Uranium (µg/L)	NA	30	2.40 - 2.86	2.55	ND - 9.50	2.12	Erosion of natural deposits
Chromium, Total - Cr (µg/L)	NA	50	ND - 3.4	2.1	ND - 12	4.0	Erosion of natural deposits
<i>Disinfection By-products, Residuals, and Disinfection By-product Precursors</i>							
Total Trihalomethanes (µg/L)	NA	Running Average 80	1.6 – 114	69.5	1.6 – 114	69.5	By-product of drinking water chlorination
Haloacetic Acids (µg/L)	NA	60	ND – 5.8	9.4	ND – 5.8	9.4	By-product of water disinfection
Disinfectant - Free Chlorine Residual (mg/L)	MRDLG as Cl ₂ 4.0	MRDL as Cl ₂ 4.0	ND – 1.6	0.52	ND – 1.6	0.52	Drinking water disinfectant added to treatment
Control of DBP Precursors - TOC (mg/L)	NA	Treatment Requirements	2.63 – 3.90	3.26	0.24 - 0.83	0.41	Total Organic Carbon (TOC) has no health effects. However, it provides a medium for the formation of disinfection by-products. Various natural & manmade sources.
<i>Volatile Organics</i>							
Methyl-tert-butyl ether (MTBE) (µg/L)	13	13	ND	ND	ND – 9.7	6.0	Leaking underground gasoline storage tanks; discharge from gasoline and chemical factories
UCMR <i>Unregulated Contaminants</i>							
Boron (µg/L)	NA	1000	260 – 270	265	NA	NA	
Vanadium (µg/L)	NA	50	ND – 4.9	2.2	NA	NA	
Chromium, Hexavalent - CrVI (µg/L)	NA	50	ND	ND	ND - 1.9	1.2	Erosion of natural deposits
Lead/Copper Rules <i>Monitored at the Customer's Tap</i> <i>Number of sites exceeded Action Level = 0</i>							
Copper (mg/L)	0.17	1.3 (AL)	ND – 0.474	0.079	ND – 0.474	0.079	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (µg/L)	2	15 (AL)	ND – 4.0	2.4	ND – 4.0	2.4	
Radiochemistry <i>Radioactive Contaminants</i>							
Radon (pCi/L)	NA	NA	ND	ND	ND – 350	312	See reporting notice on radon in this report
Gross Alpha Particle Activity (pCi/L)	NA	15	ND	ND	ND – 3.7	ND	Erosion of natural deposits
SECONDARY STANDARDS			<i>Aesthetic Standards Established By the State of California, Department of Health Services. No adverse health affects from exceedence of standards.</i>				
Regulated Contaminants with Secondary MCLs							
	Consumer Acceptance Contaminant Levels						
Groundwater Turbidity (NTU)	NA	5	See table above	See table above	0.09 – 0.64	0.64	Natural river sediment soil run-off
Aluminum (µg/L)	NA	200	15 - 490	105	ND - 820	116	Erosion of natural deposits; from surface water treatment processes
Color (Units)	NA	15	ND – 7	ND	ND - 15	6	Naturally occurring organic materials
Copper (µg/L)	NA	1000	ND - 2.9	1.7	2 – 73	18	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Iron (µg/L)	NA	300	ND	ND	ND - 356	79	Leaching from natural deposits
Manganese (µg/L)	NA	50	ND - 24.3	2.5	ND – 230	61	Naturally occurring, but occurs more in conditions lacking dissolved oxygen in water
Methyl-tert-butyl ether (MTBE) (µg/L)	NA	5.0	ND	ND	ND - 9.7	6.0	Leaking underground gasoline storage tanks; discharge from gasoline and chemical factories
Threshold Odor Number at 60 °C	NA	3	3 – 10	6	ND - 15	7	Naturally occurring organic materials
Zinc (µg/L)	NA	5000	ND - 15.6	9	7 – 474	36	Naturally occurring in trace amounts, but can be detected in soft, acidic water systems
	Consumer Acceptance Contaminant Level Ranges						
Total Dissolved Solids (mg/L)	NA	500 - 1000 - 1500	532 – 742	622	458 – 1231	821	Run-off / leaching from natural deposits
Specific Conductance (µmhos/cm)	NA	900 - 1600 - 2200	749 - 1149	868	791 – 1844	1157	Run-off / leaching from natural deposits; seawater influence
Chloride (mg/L)	NA	250 - 500 - 600	16 - 22	19	39 – 594	114	Run-off / leaching from natural deposits; seawater influence
Sulfate (mg/L)	NA	250 - 500 - 600	204 - 316	250	161 – 295	225	Run-off / leaching from natural deposits
Additional Constituents							
pH (units)	NA	NA	7.93 – 8.23	8.09	6.72 – 7.17	6.97	
Total Hardness as CaCO ₃ (mg/L)	NA	NA	331 – 466	380	252 – 660	457	
Total Alkalinity as CaCO ₃ (mg/L)	NA	NA	166 – 224	185	192 – 304	245	
Calcium as Ca (mg/L)	NA	NA	78 – 106	88	82 – 158	121	
Magnesium (mg/L)	NA	NA	31 – 46	37	24 – 73	39	
Sodium (mg/L)	NA	NA	33 – 46	40	39 – 114	66	
Potassium (mg/L)	NA	NA	2.8 – 5.6	3.8	1.3 – 4.6	2.0	

Note: Listed in the table above are substances detected in the City's drinking water. Not listed are more than 135 regulated and unregulated substances that were below the laboratory detection level.



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- Take the 20 Gallon Challenge



For more information, go to www.SantaBarbaraCA.gov/water or call 564-5460.

En Español

Este informe contiene información muy importante sobre su agua beber.

Tradúzcalo o hable con alguien que lo entienda bien.

Si usted tiene preguntas acerca del agua de la ciudad, por favor llame a Don Montoya, a la oficina de Recursos del Agua, al teléfono (805) 564-5387.

For More Information

Questions on the City's water system, call 805-564-5387.

Questions on water quality, call 805-568-1008.

City of Santa Barbara Board of Water Commissioners meets at 3:00 p.m. on the second Monday of each month. Board sessions are open to the public and are usually held in the Public Works Conference Room, located at 630 Garden Street.

www.SantaBarbaraCA.gov/water

SANTA BARBARA



Questions on Water
Call 805-564-5460



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